

28172

S/145/61/000/005/000/009

D221/D306

Approximation of deformation ...

where α , β and γ are parameters, avoids these difficulties. Calculations demonstrated that there is a good agreement at all temperatures of deformation for EI-437B alloy except for the first cycle of tension at 20°C. To plot deformation graphs for any temperature between 20 and 800°C, it is not enough to employ interpolation coefficients α , β and γ only as this may lead to significant errors at boundary points 1, 2 and 3. The carrying capacity is approximately determined by

$$\sigma_i = m - ne^{-p\epsilon_i}, \quad (13)$$

where m , n and p are constants. As in the case of the fractional linear function, this approximation is obtained by coincidence of three points, of which σ_1 and ϵ_1 correspond to the limit of proportionality and σ_3 and ϵ_3 to the specified σ_m and ϵ_m , whereas σ_2 is found from the graph for the preliminarily calculated ϵ_2 . The remaining coefficients are derived from linear relationship in semilog coordinates.

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Approximation of deformation ...

$$\lg(m - \sigma_i) = \lg n - (p \lg e) \epsilon_i \quad (14)$$

The accuracy is adequate, especially when there is a maximum elastic-plastic deformation of 1 %. Investigations of V. S. Serensen and P. I. Kotov (Ref. 12: Issledovaniye protsessa uprugoplasticheskogo deformirovaniya splava EI-437B pri tsiklichnom nagruzhenii. "Izvestiya vuzov. Mashinostroyeniye", no. 10, 1960) indicated that amplitudes of elastic-plastic deformations have an important effect on features of the deformation process and conditions of stabilization. The following conclusions are drawn: It is necessary to consider two zones of temperatures for approximation: Linear stressing for the first cycle at $t_i \leq 700^\circ\text{C}$, when the polygonal relationship is adequate. The second is in the case of uniform and continuous stressing over the entire stage of uniform plastic deformations, when fractional linear and exponential functions are the best approximations. Experimental data obtained at three temperatures for EI-437B alloy suffice for plotting a deformation graph at any temperature. There are 9 figures, 3 tables and 12

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Approximation of deformation ...

S/145/61/000/005/006/009
D221/D306

Soviet-bloc references.

ASSOCIATION: Moskovskiy aviationsionnyy tekhnologicheskiy institut
(Moscow Aviation Technological Institute)

SUBMITTED: December 26, 1960

Fig. 3. Schemes of approximation for deformation curves:
a) Polygonal graph of tension; b) graph of tension which has a junction of elastic section and straight line of stressing on a parabola; c) graph of tension described by a step function for section 1 - 3; d) graph of tension described by fractional linear function for section 1 - 3.

X

Card 7/8

SERENSEN, S.V., akademik, doktor tekhn.nauk

Strength of structural components in relation to cumulative
fatigue damage and the probability of a failure. Rasch.na
prochn. no.7:3-22 '61. (MIRA 14:11)

1. Akademiya nauk USSR.
(Strength of materials)

TUMANOV, A.T., zasluzhennyj deyatel' nauki i tekhniki RSFSR;
DAVIDENKOV, V.V., akademik; SERENSEN, S.V., akademik;
KURDYUMOV, G.V., akademik; ECCHVAR, A.A., akademik;
KISHKIN, S.T.; ZAYMOVSKIY, A.S.; SHCHAPOV, N.P., prof.;
KUDRYAVTSEV, I.V., prof.; VITMAN, F.F., prof.; KISHKINA,
S.I., prof.

Iakov Borisovich Fridman; on the fiftieth anniversary of his
birth. Zav.lab. 27 no.7:919-920 '61. (MIRA 14:7)

1. Akademiya nauk USSR (for Davidenkov. Serensen). 2. Chleny-
korrespondenty Akademii nauk SSSR (for Kishkin, Zaymovskiy).
(Fridman, Iakov Borisovich, 1911-)

S/032/61/027/008/014/020
B107/B203

AUTHORS: Serensen, S. V., and Kotov, P. I.

TITLE: Method of recording cyclically changing temperatures and stresses in thermal fatigue tests

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 8, 1961, 10'5 - 10'8

TEXT: The present paper gives some hints for measuring the temperature field and the elastoplastic properties in thermal fatigue tests. Only the methods are discussed; experimental results had been earlier reported (S. V. Serensen and P. I. Kotov, Zavodskaya laboratoriya, v. 25, no. 10 (1959)). Chromel-Alumel thermocouples were used for temperature measurements up to 1000°C. In preliminary tests, 0.5 mm diameter thermocouples, as compared with those of 0.2 mm diameter, showed considerable inertia, i. e., of 40 - 60°C at temperature fluctuations of 50 - 100°C/sec. The inertia of 0.2 mm diameter thermocouples was compared with a thermocouple made of thinly rolled (0.08 - 0.05 mm) Chromel and Alumel foils. The 0.2 mm thermocouples showed practically no inertia. Both types were used for the

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Method of recording cyclically...

S/032/61/027/006/014/020
B:07/B203

tests: 0.5 mm for controlling the ЭРМ-47(ERM-47) thermoregulator, and the less heat-resistant 0.2 mm thermocouples for indications on a portable potentiometer. The ЭПП-09(EPP-09) potentiometer is recommended for recording. Thus, the temperature distribution in the workpiece can be measured. It is shown to be irregular and asymmetrical due to the cooling air current. For measuring the deformation, rods were used as dynamometers connecting the fixing washers with an especially calculated dynamometer part. For measuring the load, resistance strain gauges attached to the dynamometer part were used such as electronic strain gauges made by the TsAGI. In fatigue tests, the temperature in the dynamometer rods may rise and bring the Wheatstone bridge out of equilibrium. Therefore, the rods must be cooled, and the bridge equilibrium should be controlled regularly. To observe the process of elastoplastic deformation at cyclic temperature variations, an oscilloscope with wide strip chart is recommended. Satisfactory results were obtained with a К-12(K-12) oscillograph. A type VII measuring loop was used for recording the temperature cycle. The indication greatly depends on the resistance of thermocouples; a family of calibration curves for thermocouples of different resistances are required for the evaluation. At the same time, the stresses are recorded with a type V measuring loop. The

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Method of recording cyclically...

S/032/61/027/008/014/020
B107/B203

sensitivity of the measuring loop, however, is too low; therefore, the signal has to be amplified. There are 5 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc.

Card 3/3

SERENSEN, S.V., akademik; BUKHARIN, N.A., doktor tekhn.nauk, prof.;
BUGLOW, Ye.G., inzh.; SNYTIN, M.Ye., inzh.

Establishing variable stress conditions for fatigue analysis.
Vest.mash. 41 no.1:15-21 Ja '61. (MIRA 14:3)

1. AN USSR (for Serensen).
(Strength of materials)

SERENSEN, S.V., akademik; KRAMARENKO, O.Yu., kand.tekhn.nauk; KULIKOVSKAYA,
O.V.

Kinetics of fatigue fracture of spheroidal-graphite iron. Vest. mash.
41 no. 5:14-19 My '61. (MIRA 14:5)

1. Akademiya nauk USSR (for Serensen).
(Cast iron--Fatigue)

PHASE I BOOK EXPLOITATION

SOV/6290

Serensen, Sergey Vladimirovich, Yevgeniy Valentinovich Giatsintov,
Vladimir Petrovich Kogayev, and Mikhail Nikitovich Stepnov

Konstruktsionnaya prochnost' aviatsionnykh splavov (Structural
Strength of Aircraft Alloys Used in Aviation Engineering).
Moscow, Oborongiz, 1962. 100 p. (Series: Moscow, Aviats-
ionnyy tekhnologicheskiy institut. Trudy, vyp. 54). 2100 copies
printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo
obrazovaniya RSFSR. Moskovskiy aviatsionnyy tekhnologicheskiy
institut.

Ed.: B. V. Zaslavskiy, Candidate of Technical Sciences; Ed. of
Publishing House: B. V. Zaslavskiy; Tech. Ed.: A. Ya. Novik;
Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: The book is intended for scientific research workers, as
well as for design and process engineers working in various
branches of the machine-building industry using light alloys.

Card 1/52

AGAMIROV, V.L., kand. tekhn. nauk; AMEL'YANCHIK, A.V., inzh.;
ANDREYEVA, L.Ye., kand. tekhn. nauk; BIDERMAN, V.L., doktor
tekhn. nauk; BOYARSHINOV, S.V., kand. tekhn. nauk; VOL'MIR,
A.S., prof., doktor tekhn. nauk; DIMENTBERG, F.M., doktor
tekhn. nauk; KOSTYUK, A.G., kand. tekhn. nauk; MAKUSHIN, V.M.,
kand. tekhn. nauk; MASLOV, G.S., kand. tekhn. nauk; MALININ,
N.N., prof., doktor tekhn. nauk; PONOMAREV, S.D., prof. doktor
tekhn. nauk; PRIGOROVSKIY, N.I., prof., doktor tekhn. nauk;
SERENSEN, S.V., akademik; STEPANOVA, V.S., inzh.; STRELYAYEV,
V.S., inzh.; TRAPEZIN, I.I., prof., doktor tekhn. nauk;
UMANSKIY, A.A., prof., doktor tekhn. nauk; FEODOS'YEV, V.I.,
prof., doktor tekhn. nauk; SHATALOV, K.T., doktor tekhn. nauk;
YUMATOV, V.P., kand. tekhn. nauk; BLAGOSKLONOVA, N.Yu., red.
izd-va; YEVSTRAT'YEV, A.I., red. izd-va; SOKOLOVA, T.F.,
tekhn. red.

[Manual for a mechanical engineer in six volumes] Spravochnik
mashinistroitelia v shesti tomakh. Red. sovet N.S. Acherkan i
dr. Izd.3., ispr. i dop. Moskva, Mashgiz. Vol.3. 1962. 651 p.
(MIRA 15:4)

1. Akademiya nauk USSR (for Serensen).
(Machinery--Design)

S/122/62/000/003/CU2/007
D262/D302

AUTHORS: Serensen, S.Y., Academician, AS UkrSSR, and Strelyayev
V.S., Engineer

TITLE: Static structural strength of glass plastics

PERIODICAL: Vestnik mashinostroyeniya, no. 3, 1962, 13 - 21

TEXT: The mechanical properties of glass plastics, obtained from the experiments conducted at the Institut mashinovedeniya AN SSSR (Institute of Machine Science AS USSR) and also from other sources, are recorded in form of graphs and tables, analyzed and the following general conclusions reached: Tensile strength and elastic properties vary within wide limits, depending on the structure and the properties of the reinforcing glass filler. Non-uniformity of structure is higher than in structural steels and alloys. This non-uniformity causes considerable dispersion of the strength of details which can be determined statistically with the help of the homogeneity indicator and also by the dependence of strength on area and volume of the detail material. Dispersion of the strength character-

Card 1/2

Static structural strength of glass ... S/122/62/v00/003/002/007
D262/D302

istics increases with the increase of strength. There are 6 tables, 12 figures and 19 references: 8 Soviet-bloc and 11 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: E. Strauss, "SPE Journal", no. 1, 1960; B. Chambers, "ASTM Bulletin", no. 10, 1958; J. Marin, "Machine Design" no. 7, 1957; J. Outwater, Mod. Plastics, v. 33, no. 3, 1956.

Card 2/2 ✓

Analysis of inhomogenous ...

S/145/62/000/011/001/003
D262/D308

on the deformation. The rate of deformation is an important factor in determining the interdependence between stresses and deformation in cases of rapid material destruction. In the incision area, the rate of deformation varies within wide limits and the position of its maximum depends on the method of loading. Coefficients of stress concentrations in the plastic region are considerably lower than in the elastic areas and decrease continuously for constant and increasing loads. There are 8 figures.

ASSOCIATION: MATI-TsIAM im Baranova (MATI-TsIAM im. Baranov)

SUBMITTED: January 5, 1962

Card 2/2

SERENSEN, S V.

Trends in the development of the theory of the strength of
materials. Prykl. mekh. 8 no.4:349-351 '62. (MIRA 15:9)
(Strength of materials)

16.6200 1327

3185
S/032/62/028/001/011/017
B108/B138

AUTHORS: Kogayev, V. P., and Serensen, S. V.

TITLE: Statistical method of estimating the effect on fatigue strength of stress concentration and absolute dimensions

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 1, 1962, 79 - 87

TEXT: The dependence of maximum stress in the concentration zone σ_{\max} on cross section d, gradient of the first principal stress \bar{G} , and probability of rupture P is investigated on the basis of the statistical fatigue theory and Weibull's distribution function (Ref. 1, see below). For a round rod, the relation

$$I = \frac{n}{n+1} \frac{d}{\sigma_0} \left(\frac{\sigma}{\sigma_0} \right)^n \cdot \frac{(n-1)^{n+1}}{\xi} \quad (12')$$

$$\xi = 2.3 \ln(1-P) \quad (12'')$$

is obtained, where I is the absolute integral exponent in the probability of rupture $P(\sigma) = 1 - \exp \left[- \int_{F}^{\infty} \left(\frac{\sigma - u}{\sigma_0} \right)^m dF \right]$. $u = \sigma$ at $x = a_0$ ($\sigma \gg u$).
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31853
S/032/62/028/001/011/017
B108/B138

Statistical method of...

$\zeta = \frac{\sigma_{\max}}{u}$. The material parameters m , u , and σ_0 must be determined from fatigue tests in which P can be found. σ_{\max} can easily be found with a nomogram (Fig. 2). calculated from the expression

$$\ln \frac{(1-\zeta^{m+1})}{\zeta} = \ln I - \ln \frac{d}{n} - \ln \frac{n}{m+1} - m \ln \left(\frac{u}{\sigma_0} \right) \quad (14)$$

which follows from (12'). There are 5 figures and 11 references: 7 Soviet and 4 non-Soviet. The two references to English-language publications read as follows: Ref. 1: W. Weibull. Proc. Roy. Swed. Inst. eng. research, No. 151, 153 (1939); Trans. of the Roy. Inst. technology, Stockholm, No. 27 (1949); J. of Appl. Mech., Sept. (1951); Ref. 4: B. Epstein. J. of Appl. Physics, v. 19, Febr. (1948).

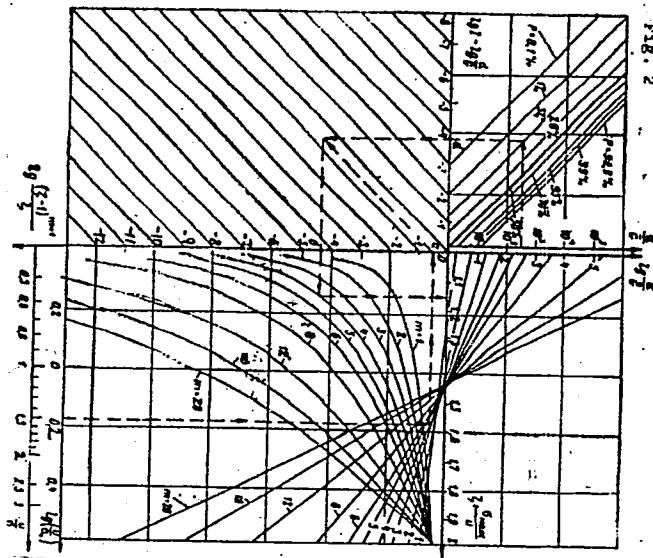
ASSOCIATION: Institut mashinovedeniya (Institute of Science of Machines)

Fig. 2. Nomogram for the determination of σ_{\max} .

Legend: $\sigma_{MAK} = \sigma_{\max}$.
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Statistical method of...

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S/032/62/028/001/011/017
B108/B138



Card 3/3

S/032/62/028/004/012/026

B105/B101

Principal trends in mechanical...

devices are: (1) short time tests with a static load at given deformation rates variable within several orders of magnitude. They are to include recordings and changes in temperature and atmosphere(also vacuum). For long-term test units with static load, the application of (a) constant stress, (b) constant deformation, and (c) constant deformation rate, is required. The application of asymmetric load cycles, automatic control, and devices for the observation of crack formation is provided for units with alternating loads. A frequency range from 0.2 to 2000 cps is desired. Recording of deformation rates to 100 - 200%/sec is required for impact test units. Shortage of uniform examination methods for plastics has been occasionally criticized at several conferences. A coordinated development of uniform methods to solve the above problems is demanded.

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S/032/62/028/004/015/026
B124/B101

AUTHORS: Serensen, S. V., and Strel'yayev, V. S.

TITLE: The effect of absolute size in tensile tests of glass-reinforced structural plastics

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 4, 1962, 483 - 485

TEXT: Tensile stresses were applied to one axis of elastic symmetry of the heat-cured glass-reinforced plastics AF-4c (AG-4s), P-49c (R-49s), and 33-18c (33-18s) with strain rates ranging from about 0.2 to $0.5 \cdot 10^{-2}$ sec $^{-1}$ and cross sections of the samples varying between 20 and 600 mm 2 . Mean values of tensile strength, mean square deviation, the variation coefficient, and empirical distribution functions of tensile strength were determined. The linear relation: $\log \sigma_i = A - k \log F_i$ (1) is shown to hold between the cross section of the sample and its tensile strength. Thus, the relation between the magnitude of the stressed area and the corresponding tensile strength is: $\sigma_1/\sigma_2 = (F_2/F_1)^k$ (2), where k is a constant depending on the properties of the material. According to W.

Card 1/2

SERENSEN, S.V.; DUL'NEV, R.A.

Effect of deformation rate on the mechanical characteristics
of the EI437B alloy and EI481 steel at high temperatures. Zav.
lab. 28 no.7:848-852 '62 (MIRA 15:6)
(Deformations (Mechanics)) (Alloys--Testing)

S/032/62/028/010/006/009
B117/B186

AUTHORS: Serensen, S. V., and Kotov, P. I.

TITLE: Estimation of the thermal fatigue strength by the method of variable load rigidity.

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 10, 1962, 1233 - 1238

TEXT: The thermal fatigue strengths of the heat-resistant alloys 3Н4376 (EI437B) and 3Н867 (EI867) were tested at given temperatures (minimum constant at 100°C; maximum variable in succession between 700 and 1000°C) and under variable load rigidity conditions ($3.28 \cdot 10^5$ - $0.9 \cdot 10^5$ kg/cm). The special testing device used for this purpose was described by S. V. Serensen and P. I. Kotov in Zavodskaya laboratoriya, XXV, 10, 1216 (1959) and XXVII, 8, 1013 (1961). Experimental results were first plotted in load rigidity versus fatigue curves and secondly, for convenience, in relative coordinates, $\bar{\varepsilon} = \varepsilon_p / \varepsilon_t$ and $\bar{N} = N_p / N_t$ ($\bar{\varepsilon}$ = combined elastic and plastic or plastic deformation; \bar{N} = corresponding number of cycles), which are then related to the thermal deformation and to the number of cycles corresponding to the fatigue curve with maximum load rigidity (ε_t , N_t). Here, ε_p is the

Card 1/2

SERENSEN, S.V., akademik

Accumulation of fatigue breaks and coefficients of safety
under nonstationary conditions of application. Acta techn Hung
Acta techn Hung 41 no.1/2:55-76 '62.

1. AN USSR.

SERENSEN, S.V., akademik; KOZLOV, L.A., kand.tekhn.nauk

Strength analysis under nonstationary variable stresses.
Vest.mash. 42 no.1:11-17 Ja '62. (MIRA 15:1)

1. Akademiya nauk USSR (for Serensen).
(Strength of materials)

SERENSEN, S.V., akademik; STRELYAYEV, V.S., inzh.

Static structural strength of glass reinforced plastics.
Vest.mash. 42 no.3:13-21 Mr '62. (MIRA 15:3)

1. Akademiya nauk Ukrainskoy SSR(for Serensen).
(Glass reinforced plastics)

SERENSEN, S.V., akademik; PRIGOROVSKIY, N.I., doktor tekhn.nauk

Methods and means for measuring deformations and stresses. Vest.
mashinostr. 42 no.11:78-84 N '62. (MIRA 15:11)

1. Akademiya nauk Ukrainskoy SSR (for Serensen).
(Strains and stresses--Measurement)

SERENSEN, S. V.; STRELYAYEV, V. S.

"Creep resistance and low-cycle fatigue of fiberglass plastics."

Report to be submitted for the Joint International Conference on Creep,
New York, 25-29 Aug 63.

SERENSEN, S.V., akademik; KOGAYEV, V.P.; SHNEYDEROVICH, R.M.;
RESHETOV, D.N., doktor tekhn. nauk, prof., retsenzent;
VOSKRESENSKIY, N.N., inzh., red.; TIKHANOV, A.Ia., tekhn.
red.

[Carrying capacity and strength calculation of machine parts]
Nesushchaia sposobnost' i raschety detalei mashin na proch-
nost. Izd.2., perer. i dop. Moskva, Mashgiz, 1963. 451 p.
(MIRA 16:10)

1. Akademiya nauk Ukr.SSR (for Serensen).
(Machinery--Design and construction)

S/122/63/000/001/004/012
D263/D308

AUTHORS:

Sorenson, S.V., Academician of the AS UkrSSR and
Kozlov, L.A., Candidate of Technical Sciences

TITLE:

Cumulative fatigue damage and calculations towards
greater strength of metals under alternating stresses of variable amplitude

PERIODICAL:

Vestnik mashinostroyeniya, no. 1, 1963, 32-34

TEXT: The present study, which is a continuation of previous works by the same authors, takes into account results and conclusions reached in this field by other workers. Additional data are given relating to characteristics of cumulative fatigue damage and their application in calculations are explained.

$$\sum \frac{n_i}{N_i} = \sum \frac{\omega_i n_i}{N_i} - 1 \quad (1)$$

(ω_i - coefficient of stress interaction, n_i - durability), and var-

Card 1/2

Cumulative fatigue damage ...

S/122/63/000/001/004/012
D263/D308

ious conditions for the fatigue curve and intensity spectrum are analyzed and experimental results from various sources included. There are 2 figures and 10 references.

Card 2/2

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001548020019-1

SERENSEN, S. V.; SHNEYDEROVICH, R. M.

"The effect of time on stress distribution in the case of cyclic deformation."

report submitted for 11th Intl Cong of Theoretical & Applied Mechanics & General Assembly, Munich, 30 Aug-5 Sep 64.

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001548020019-1"

BIRGER, I.A., red.; DAREVSKIY, V.M.; KINASOSHVILI, R.S.; SERENSEN,
S.V., red.; SHORR, B.F., red.; RODZEVICH, S.S., red.

[Stability and dynamics of aircraft engines] Prochnost' i
dinamika aviatsionnykh dvigatelei; sbornik statei. Moskva,
Mashinostroenie. No.1. 1964. 287 p. (MIRA 18:10)

SERENSEN, S.V., red.; STRELYAYEV, V.S., kand. tekhn. nauk,
red.

[Problems of mechanical fatigue] Voprosy nekhanicheskoi ustalosti. Moskva, Mashinostroenie, 1964. 378 p.
(MIRA 18:2)

ACCESSION NR: AT4044784

8/2536/64/000/061/0073/0085

AUTHOR: Serensen, S. V., Borodin, N. A.

TITLE: Stress concentration and creep flow in aluminum alloy plates

SOURCE: Moscow. Aviationsnyy tekhnologicheskiy institut. Trudy*, no. 61, 1964.
Konstruktionsnaya prochnost' legkikh splavov i stalei (Structural strength of light alloys
and alloy steels), 73-85

TOPIC TAGS: aluminum alloy, alloy V95, alloy deformation, creep flow, stress concentration, stress relaxation, initial stress gradient, zone displacement, aluminum plate

ABSTRACT: Smooth or centrally perforated plates of aluminum alloy V95 (width 36 mm, thickness 0.6 or 1.00 mm, aperture diam. = 3, 6, 8 or 15 mm) were tested on a K-3A unit at an initial maximum stress of 27 kg/mm² and 200 or 150C (theoretical stress concentration 2.15-2.70, maximum stress gradient 2.0 - 6.0 for various samples) by employing the precision scale grid method (line frequency 0.1 - 0.6 mm, depth ~1μ) to study deformation in stress concentration areas. The results indicate that stress relaxation weakens the effect of stress concentration on stress-rupture strength. The rate of stress relaxation depends essentially on the initial stress gradient, decreasing with a decrease in the gradient, which also reduces the periods to inception of local deformation and to total

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ACCESSION NR: AT4044784

failure. Loss of deformation stability in the aperture area is related to the magnitude of total creep flow in that area, rather than to the level of stress. The rate of creep in layers removed from the aperture contour becomes higher than in those adjacent to it as time elapses, the peak deformation zone is displaced and sub-layer failure occurs. Orig. art. has: 8 figures, 1 table, and 8 numbered equations.

ASSOCIATION: Aviationsionnyy tekhnologicheskiy institut, Moscow (Institute of Aviation Technology)

SUBMITTED: 00

SUB CODE: MM

NO REF SOV: 00Z

ENCL: 00

OTHER: 000

Card 2/2

L 32462-65 EWT(d)/EWP(w)/EWT(m)/EWP(v)/EWA(d)/EWP(t)/T/EWP(n)/EWP(k)/EWP(l)/
EWP(b) Pf-4/Pad IJP(c) JD/HW/JG
ACCESSION NR: AT4044786 S/2536/64/000/061/0105/0132

AUTHOR: Serensen, S. V.; Stepnov, M. N.; Kogayev, V. P.; Giatsintov, Ye. V.

TITLE: Brittle strength of alloy steel

SOURCE: Moscow. Aviationsionnyy tekhnologicheskiy institut. Trudy*, no. 61, 1964.
Konstruktsionnaya prochnost' legkikh splavov i stalei (Structural strength of light
alloys and alloy steels), 105-132

TOPIC TAGS: alloy steel, steel strength, steel brittle strength, bending strength,
stress concentrator, critical brittleness temperature

ABSTRACT: This study dealt with the brittle strength of Cr-Ni-Va alloy steel of
the martensite class. The brittle strength was determined from dynamic and static
bending tests, using specimens with two-step notches. In addition, static tensile
tests were made, using smooth and notched specimens 6 mm in diameter and the IM-5r/
rupture machine. During static elongation tests, the specimens were kept in a
special container, thermally insulated and filled with a cooling liquid; at 0 to
-75C, the cooling medium was a mixture of gasoline with solid CO₂; at -110C - gas-
oline and liquid nitrogen; at -196C - liquid nitrogen. The results show that des-

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truction during static elongation at +40 to -110C is ductile in nature. There is no significant decrease in static bending strength between +40 and -60C, but at -196C there is a 15% decrease and destruction is caused by rupture; resistance to rupture, determined on smooth specimens, was equal to 146-148 kg/mm². A drop in temperature from +40 to -196C causes the resistance to plastic deformation to increase 1.6-1.8 fold and the rupture strength to increase by 7%. The conditional maximum strength of notched specimens is 1.6-1.8 times greater during ductile destruction (+40 to -110C) and 30% lower during brittle destruction (-196C) than for smooth specimens. The results of dynamic bending tests confirm that it is possible to evaluate the critical brittleness temperature from the deformation criterion. The critical brittleness temperature as evaluated during bending tests of notched specimens from the strain characteristic, nature of the fracture, and load size at moment of rupture, has approximately the same value. The effect of the stress concentrators on stress distribution at the bottom of the notch and the effect of the heat treatment and size of the specimen on residual stress and bending strength are also discussed. Orig. art. has: 25 figures, 8 tables, and 1 formula.

ASSOCIATION: Moskovskiy aviationskiy tekhnologicheskiy institut (Moscow aeronautical engineering Institute)

Card 2/3

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001548020019-1

L 32462-65
ACCESSION NR: AT4044786

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 011

OTHER: 002

Card 3/3

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001548020019-1"

L 32471-65 EWT(a)/EWP(w)/EWT(m)/EWP(v)/EVA(d)/EWP(t)/T/EWP(h)/EWP(k)/EWP(l)/
EWP(b) Pf-4 JD
ACCESSION NR: AT4044787 S/2536/64/000/061/0133/0151 32
29
B+1

AUTHOR: Serensen, S. V.; Makhutov, N. A.

TITLE: Laws of crack development and failure of frame steel during cyclic loading

SOURCE: Moscow. Aviationsionnyy tekhnologicheskiy institut. Trudy*, no. 61, 1964.
Konstruktsionnaya prochnost' legkikh splavov i stalei (Structural strength of light
alloys and alloy steels), 133-151

TOPIC TAGS: frame steel, steel failure, cyclic load, crack formation, steel mechanical property, low alloy steel

ABSTRACT: The results of an experimental study of the failure of low-alloy frame steel during cyclic loading are discussed. Flat specimens were notched on two sides with a disk milling cutter 2 mm thick; notches were 0.5, 1, 2, 3, (and 4 mm deep). The working section of the specimens was polished. An instrument of the PMT-3 type was used to apply a grating with a 0.1-mm mesh to the peak of the notch; this was for microhardness determination. Specimens 1.50 mm thick were tested on an IM-4 machine; those 5, 8, and 14 mm thick - on an UIM-50 type machine. For repeated elongation, the machines were equipped with electric contact and relay devices. The

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ACCESSION NR: AT4044787

2

load ranged from zero to maximum values for a given amplitude. Maximum plastic deformation accumulated in the peak of the crack can serve as a criterion of failure if the notch is 2 mm wide and the number of cycles is $N \leq 2000$. The maximum deformation is approximately the same for the same specimens during failure under single or repeated loads. The magnitude of the local plastic deformation, after initial loading, increases monotonically with increasing stress, the rapidity increasing with a decrease in extent of the stressed state. The plastic deformation accumulated during N cycles at the stage of destruction depends on the plastic deformation after the first loading. The length of the crack after N cycles of loading depends on the degree of homogeneity and extent of the stressed state and on the magnitude of deformation after the first loading. Formulas are given for the determination of the plastic deformation accumulated during N cycles and the length of the crack after N cycles. The maximum length of the crack increases monotonically with increasing number of cycles up to failure and with an increasing extent of the stressed state. Orig. art. has: 19 figures, 3 tables, and 4 formulas.

ASSOCIATION: Moskovskiy aviationsionnyy tekhnologicheskiy institut (Moscow aeronautical engineering institute)

Card 2/3

L 32471-65

ACCESSION NR: AT4044787

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 001

OTHER: 003

Fatigue 18

Card 3/3

SERENSEN, S.V.; MAXHUTOV, N.A.

Study of the correlations of strain and failure of mild steel
under a small number of cycles of loading. Zav. lab. 30 no.1:72--
77 '64.
(MIRA 17:9)

ACCESSION NR: AP4033619

S/0032/64/030/004/0468/0472

AUTHORS: Serensen, S. V.; Dul'nev, R. A.

TITLE: Method for investigating temperature fields around specimens during thermal fatigue stress

SOURCE: Zavodskaya laboratoriya, v. 30, no. 4, 1964, 468-472

TOPIC TAGS: temperature field, thermal fatigue, thermal conductivity, heat balance, rod perimeter, thermocouple

ABSTRACT: Experimental and analytical studies were made on L. F. Coffin (Trans. ASME, S.T.P., No. 165, 1954) type equipment to investigate temperature fields around alloy rods during thermal fatigue tests. The temperature field was assumed to be symmetric with respect to the specimen mid-section (see Fig. 1 on the Enclosure). It was further assumed that T was constant across the rod thickness, and that λ (the thermal conductivity) was independent of T . A heat balance between the midsection and the supporting wall, plus losses to the atmosphere, led to the expression for temperature T ,

$$T = \left(T_0 + \frac{B}{A} \right) \frac{\operatorname{ch}(x\sqrt{A})}{\operatorname{ch}(l\sqrt{A})} - \frac{B}{A}$$

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ACCESSION NR: AP4033619

where A and B are functions of λ , rod perimeter, density, and heating current I. Temperature measurements with 15 chromel-alumel thermocouples indicated values three times higher than those predicted by the above equation. This discrepancy was subsequently alleviated by introducing steel sleeves inside the test rods. These served as temperature equalizers. Orig. art. has: 9 formulas and 4 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: TD, MM

NO REF SOV: 008

OTHER: 002

Card 2/3

ACCESSION NR: AP4033619

ENCLOSURE: 01

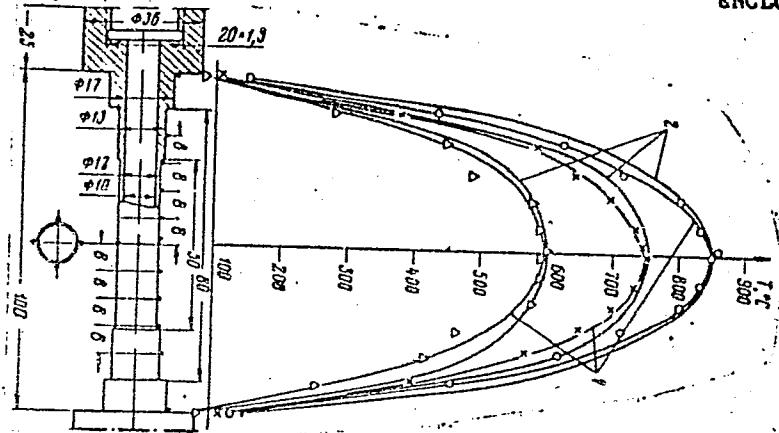


Fig. 1. Temperature distribution in El437B alloy specimen, obtained experimentally (Curve 1) and theoretically (Curve 2).

Card 3/3

SERENSEN, S.V., akademik; KOZLOV, L.A., kand. tekhn. nauk

Characteristics of nonstationary strength and the determination
of the potential of durability. Vest. mashinostr. 44 no.6:10-18
Jg '64. (MIRA 17:8)

I. AN UkrSSR (for Serensen).

L 48093-65 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l) Pf-4

ACCESSION NR: AP5007072

S/0122/65/000/002/0003/0013
*22
B*AUTHORS: Sorenson, S. V. (Academician AN UkrSSR); Buglov, Ye. G. (Candidate of technical sciences)

TITLE: Development of machine part endurance analysis with respect to reliability evaluation

SOURCE: Vestnik mashinostroyeniya, no. 2, 1965, 3-13

TOPIC TACS: reliability, machine reliability, statistical process

ABSTRACT: The methods of applying statistical representation of mechanical properties of materials, failure of parts, and effects of loading in evaluating depreciation, failure probability and machine life curves are discussed. The reliability $r(t)$, probability of failure $V(t)$, probability density of useful life $a(t)$ (where

$$V(t) = \int a(t) dt$$

and danger of failure $\lambda(t)$ (where

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L 48093-65

ACCESSION NR: AP5007072

$$\lambda(t) = \frac{\Delta n(t)}{(N - n)\Delta t}$$

O

Δn = number of failed parts at t in Δt , N = initial number of parts) are related as:

$$\lambda(t) = \frac{a(t)}{1 - V(t)}, \quad r(t) = e^{-\int_0^t \lambda(\tau) d\tau}$$

The evaluation of these parameters in terms of known statistical loading and failure characteristics is discussed and for normal distribution the failure probability as a function of coefficient of safety

$$n = \frac{\bar{r}}{\bar{q}}$$

(where \bar{r} = expected endurance, \bar{q} = expected value of single loading, or average value over the number of cycles or time) is derived as

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L 48093-65

ACCESSION NR: AP5007072

$$V(A_q, A_r, \lambda) =$$

$$= \int_0^{\infty} \frac{1}{\sqrt{2\pi}} e^{-\frac{(x - \bar{x})^2}{2s_p^2}} d\frac{x}{s_p} \int_{-\infty}^{\infty} \frac{1}{\sqrt{2\pi}} e^{-\frac{(x - \bar{x})^2}{2s_r^2}} dx$$

$x = \frac{s_p A_q + s_r A_r}{s_p + s_r}$

(where A_q and A_r = coefficients of variation of loading and strength and are equal to S_q/\bar{g} and S_r/\bar{r} respectively; S_q and S_r = average square values of the loading and endurance; X and q = integration variables over the regions of possible values of loading and endurance respectively). For the condition $\lambda/a < 1$ (a = frequency parameter of the process = average number of values exceeding an average value g) the danger of failure per unit time is derived as

$$\lambda = a \frac{A_q}{\sqrt{A_q^2 + a^2 A_r^2}} e^{-\frac{(a - 1)^2}{2(A_q^2 + a^2 A_r^2)}}$$

The methods are demonstrated with an example involving a plow support part. Orig. card 3/11
The method has: 8 figures and 9 formulas.

L 48093-65

ACCESSION NR: AP5007072

0

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: IS

NO REF Sov: 006

OTHER: 002

Card ✓
li/li

1 48115-65 EWT(d)/EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWA(d)/EWP(v)/EPR/EWP(j)/T/EWP(x)/
EWP(h)/EWP(l) PC-4/Pf-4/Pr-4/Ps-4/Pt-7 WW/RM

S/0122/65/000/002/0052/0058

ACCESSION NR: AP5007075

AUTHORS: Serensen, S. V. (Academician AN UkrSSR); Zaytsey, G. P. (Engineer)

TITLE: Prolonged loading rupture strength of fiber glass in view of accumulated damage

SOURCE: Vestnik mashinostroyeniya, no. 2, 1965, 52-58

TOPIC TAGS: fiber glass, fiber glass property, fiber glass fatigue, rupture strength/AG 4S fiber glass, 33 1BS fiber glass, E 1200 fiber glass, 27 63S fiber glass, MP 4G testing machine

ABSTRACT: The strength and time to rupture of fiber glass laminations under prolonged constant or periodic loading conditions were investigated theoretically and experimentally. Based on a relation of working area decrease as a function of stress derived by L. M. Kachanov (O vremeni razrusheniya v usloviyakh polzuchesti. Izvestiya AN SSSR, OTN, No. 8, 1958), an equation for the accumulated damage is derived in the form

$$D = 1 - \sqrt[m+1]{(1 - D_{n\sigma_n})^{m+1} - [(1 - D_{n\sigma_n})^{m+1} - (1 - D_{k\sigma_n})^{m+1}] \frac{\tau_{\sigma_n}}{\tau_{p\sigma_n}}}$$

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L 48115-65

ACCESSION NR: AP5007075

(where m = material characteristic, $D_{n\alpha n} = D_{k\alpha n}$ = damage at initial loading and at rupture respectively, evaluated as described by S. V. Serensen and G. P. Zaytsev (Kratkovremennoye razusheniye stekloplastikov. Mekhanika polimerov, AN Latv.SSR, 1965, No. 2), $T_{\alpha n}$ and $T_{p\alpha n}$ = time and time at rupture respectively. For a loading program at several stress levels, the accumulating damage (sum of the damage contributions) and the time to rupture can be calculated from the above equation by an analytical successive approximation technique or by a graphical method with

$$m = \frac{\lg \frac{t_1}{t_1 - t_1}}{\lg \frac{a_1}{a_2}}$$

which, for the following types of fiber glass, has the experimental values listed (for a 50-mm² specimen): AG-1S^p = 19, 33-18S = 24, E-1200 = 37, 27-63S = 25. Quantity m decreases with increasing specimen cross section. Constant prolonged loading experiments were performed on fiber glass E-1200 and two-stress-level (varying between 43.6 and 50.7 kg/mm²); periodic loading (30-minute period) experiments were performed on a modified test machine MF-40. The experimental

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L 48115-65

ACCESSION NR: AP5007075

results were compared with theoretical results obtained by using the linear damage accumulation equation

$$\sum_{i=1}^n \frac{v_i}{v_i} = \sum_{i=1}^n D_i = 1,$$

and also the nonlinear method based on the equation derived above. It was found that for major damage accumulation at low stress levels ($D_1 > 0.7$) the two methods gave similar results, while for major damage accumulation at high stress levels ($D_2 > 0.7$) the nonlinear evaluation gave better results. An example is worked out for a stressed fiber glass disk. Orig. art. has: 8 figures, 17 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

NO REF Sov: 008

ENCL: 00

OTHER: 003

SUB CODE: MT, MA

Card *M*
3/3

L 63024-65 EWT(m)/EPF(c)/ENG(r)/EWP(j)/T Pc-li/Pe-5/Pr-l/Ps-l WW/JAJ/RM

ACCESSION NR: AP5012431

UR/0374/65/000/002/0093/0103
678:539.4.019

37
B

AUTHORS: Serensen, S. V. (Moscow); Zaytsev, G. P. (Moscow)

TITLE: The rupture of glass-fiber plastics under short term tension

SOURCE: Mekhanika polimerov, no. 2, 1965, 93-103

TOPIC TAGS: glass fiber, tensile strength, resin, tensile property, tensile stress

ABSTRACT: Theoretical calculations, based on the theory of W. Weibull (A Statistical Theory of the Strength of Materials. Swed. Ins. Res., 1939, 159), for the progressive damage of oriented glass fiber plastics subjected to static load are presented. The calculations are based on a model in which the rupture stresses follow a normal distribution over the cross-sectional area of the specimen. The damage parameters are expressed as functions of the mechanical properties of the specimen, the distribution of the latter over the cross-sectional area and the size of the specimen. Results of theoretical calculations show that the fractions of damaged area before complete destruction for specimens of four different plastics are: E-1200, 27-63S, 33-18S and AG-4S — 13.8, 13.8, 10.9, and 6.9%.

Card 1/2

L 63024-65

ACCESSION NR: AP5012431

respectively. These figures are in good agreement with experimental data reported in (Tr. TsNIIMF, 53. L. 1963, 70, 71). It is suggested that the theoretical model affords a calculation of the fraction of damaged area in fiberglass plastics under short term static load as well as an estimation of the accumulated damage in these materials when subjected to static stresses of long duration.

Orig. art. has: 1 table, 3 graphs, and 25 equations.

ASSOCIATION: none

SUB CODE: MT, ME

SUBMITTED: 06Nov64

ENCL: 00

OTHER: 001

NO REF Sov: 010

dm
Card 2/2

L 22973-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t) IJP(c) JD/GS

ACC NR: AT6008657

(N)

SOURCE CODE: UR/0000/65/000/000/0137/0146

AUTHORS: Serensen, S. V. (Moscow); Kozlov, L. A. (Moscow)

ORG: none

TITLE: The fatigue of alloys at high temperatures in statistical aspect

SOURCE: Vsesoyuznoye soveshchaniye po voprosam staticheskoy i dinamicheskoy prochnosti materialov i konstruktsionnykh elementov pri vysokikh i nizkikh temperaturakh, 3d. Termoprochnost' materialov i konstruktsionnykh elementov (Thermal strength of materials and construction elements); materialy soveshchaniya Kiev, Naukova dumka, 1965, 137-146

TOPIC TAGS: material testing, fatigue testing, temperature effect, fatigue strength, probability, statistics, statistical model / EI4376 alloy, EI617 alloy

ABSTRACT: The statistical interpretation of fatigue testing results at high temperatures and normal temperatures is essentially the problem of determining the relationship between stress σ , durability N , and probability of destruction $-P$, or probability of "survival" $\lambda = 1 - P$. In developing this concept the authors outline in detail the characteristics of the statistical distribution of

Card 1/3

L 22973-66

ACC NR: AT6008657

fatigue properties and their parameters. Fatigue curves in ℓ , N coordinates are shown for the alloy EI617 at 1070 and 1170 K temperatures. These curves give the distribution of the logarithm of durability (time until failure). Obtaining statistical characteristics by this approach is compared with the technique of plotting the distribution of the logarithm of stress amplitude in ℓ , σ coordinates. The authors develop relationships for the variation of the distribution of fatigue characteristic parameters with the level of stress, temperature, and cycle assymetry. Figure 1 shows the dependence of the coefficient of variation S of the logarithm of duration for selected alloys EI4376 and EI617. Relationships for the change of the vibration coefficient with prolongation of fatigue are plotted, and a method for evaluating the statistics of fatigue strength for nonstationary loading conditions is traced. The interactions of technological and mathematical factors in the statistical evaluation of mechanical properties are discussed.

Card 2/3

L 22973-66

ACC NR: AT6008657

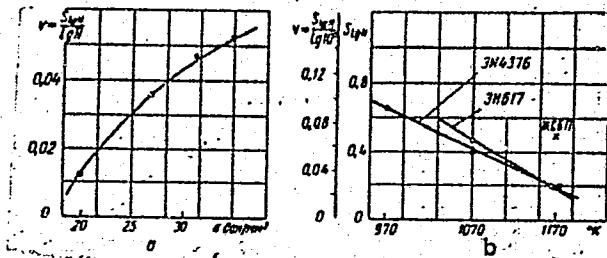


Fig. 1. Dependence of the coefficient of variation of the logarithm of duration.

Orig. art. has: 9 figures and 4 equations.

SUB CODE: 20, 11/ SUBM DATE: 19Aug65/ ORIG REF: 003

Card 3/3 ②

L 32693-66 EWT(m)/EWP(w)/T/EWP(t)/ETI JD
ACC NR: AP6016275 (A)

SOURCE CODE: UR/0122/66/000/001/0007/0012

AUTHORS: Serensen, S. V. (Academician AN UkrSSR); Kogayev, V. P. (Candidate of technical sciences, Docent) *JO*
B

ORG: none

TITLE: Durability of machine parts taking into account the probability of failure in the presence of nonstationary variable loading

SOURCE: Vestnik mashinostroyeniya, no. 1, 1966, 7-12

TOPIC TAGS: fatigue test, fatigue strength, durability, steel, bending stress / 45 steel

ABSTRACT: The problem of determining the expected durability of parts when a part of the load-amplitude spectrum exceeds the average value of the fatigue limit is examined. A part is assumed to be operating under a stationary stress amplitude σ , the deviation of which from a certain fixed value σ_1 can be characterized by the standard deviation $s(\log \frac{\sigma}{\sigma_1})$ of the value $\log \frac{\sigma}{\sigma_1}$. On the basis of fatigue tests of 20 parts at a stationary amplitude σ_1 , an empirical distribution function of the durability is obtained, which follows a logarithmically normal law of distribution.

UDC: 621.81:620.169.1

Card 1/2

L 32693-66

ACC NR: AP6016275

The average value $\bar{X}_1 = \log \bar{N}_1$ and the standard deviation is $s(\log N_1)$, where N_1 is the durability of the parts in the tests. Practical examples are used to illustrate the work. It is found that when all factors are taken into account, the width of the confidence interval is so great that determination of durability according to the confidence intervals loses its practical value. Orig. art. has: 8 formulas, 3 tables, and 5 graphs.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 010/ OTH REF: 006

Card 2/2 BLG

SERENY, B. 1948

(Orszagos Kozegeszegugyi Intezet, Budapest)

"Agglutination Test for the Diagnosis of Typhus Fever."

Nepegeszs., Budapest , 1948 29(721-752)
Abst: Exc. Med. IV, Vol. 11, No. 5, p. 521

SERENYI, Bela

New methods in the bacteriological diagnosis of dysentery.
Kiserletes orvostud. 6 no.5:469-474 Sept 54.

1. Orszagos Kozegeszsegugyi Intezet.
(DYSENTERY, BACILLARY, diag.
bact., new methods)

SERENY, Bela, dr.; HOLLOS, Ivan, dr.

Sulfaguanidine sensitivity of Shigella strains found in Hungary.
Orv hetil 95 no.16:421-424 Ap '54. (HEAL 3:8)

1. As Orszagos Kozegeszsegugyi Intezet (foigazgato: Hava Andras
dr.) kozlemenye.

(SULFAGUANIDINE, eff.

*on Shigella strains)

(SHIGELLA, eff. of drugs on

*sulfaguanidine sensitivity)

SERENY, B.

Experimental Shigella Keratoconjunctivitis; a preliminary report.
Acta microb.hung. 2 no.3:293-296 1955.

1. State Institute for Public Health.
(KERATOCONJUNCTIVITIS, bacteriology,
Shigella in exper. animals)
(SHIGELLA, infections,
exper. keratoconjunctivitis)

HUNGARY / Microbiology. Human and Animal Pathogens.
Bacteria of Intestinal Group.

F

Abs Jour: Ref Zhur-Biol., No 2, 1959, 5575.

Author : Sereny, B.

Inst : Hungarian Academy of Sciences.

Title : Experimental Keratoconjunctivitis Shigellosa.

Orig Pub: Acta microbiol. Acad. sci. hung., 1957, 4,
No 4, 367-376.

Abstract: Guinea pigs were inoculated by way of the conjunctival sac with a suspension of Shigella, as a result of which a specific keratoconjunctivitis developed in the animals. A technique of conjunctival inoculation, symptomatology of the infection and data of bacteriological, histological, serological and cytological investigations are presented. Only fresh cultures are suitable

Card 1/3

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001548020019-1

SERENY, B.

Aetiotropic treatment of experimental shigellosis. Acta microb. hung.
5 no.2:179-191 1958.

1. State Institute of Hygiene, Budapest.

(SHIGELIA, infections

exper. keratoconjunctivitis in guinea pigs, eff. of anti-
biotics)

(KERATOCONJUNCTIVITIS, experimental

caused by Shigella in guinea pigs, eff. of antibiotics)

(ANTIBIOTICS, effects,

on exper. keratoconjunctivitis caused by Shigella in guinea
pigs)

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001548020019-1"

SERENY, B.

Acquired natural immunity following recovery from keratoconjunctivitis shigellosa.
p. 343.

ACTA MICROBIOLOGICA. (Magyar Tudomanyos Akademia) Budapest, Hungary, Vol. 5,
no. 4, 1958. In English.

Monthly list of East European Accessions, (EEAI) LC, Vol. 9, no. 1, Jan. 1960.

Uncl.

SERENY, Bela

Quantitative determination of urinary sugar by photometric method.
Kiserletes orvostud. 10 no.1:100-101 Feb 58.

1. Budagyongyei Tudo- es Szivbeteg Szanatorium.
(GLUCOSE, in urine
determ. by photometric method (Hun))

SERÉNY B.

EXCERPTA MEDICA Sec 17 Vol 5/7 Public Health July 59

1871. SOME PROBLEMS IN THE CAMPAIGN AGAINST BACILLARY DYSENTERY - A bacilláris dizentéria elleni küzdelem egyes kérdései - Serény B. Közl. az Országos Közegészségügyi Int. - NEPEGÉSZSÉGÜGY 1958, 39/8-9
(192-198) Tables 3

All over the world, a marked increase in the number of reported cases of bacillary dysentery has occurred during the past few years, but mortality from this cause has decreased in connection with the lower lethality. There is a noticeable shift in the epidemiological pattern, caused especially by a greater predominance of Sonnen-dysentery, one of the most resistant types of the disease. The number of antibiotic-resistant strains is on the increase. The spread of the disease is characterized by the importance of contact infections and the occurrence of focal outbreaks. The frequency of infections increases towards the end of winter and in the early spring. The clinical picture shows great variability.

SERENY, B.

Acquired natural immunity following recovery from keratoconjunctivitis
shigellosa. J. Hyg. Epidem., Praha 3 no.3:292-305 1959

1. State Institute of Public Health, Budapest.
(SHIGELLA, infections)
(KERATOCONJUNCTIVITIS, immunol)

SERENY, B.

A new method for the investigation of Sh. Sonnei cultures. Acta
microb. hung. 6 no.3:179-189 1959.

1. State Institute of Hygiene, Budapest.
(SHIGELLA, culture)

EXCERPTA MEDICA Sec 4 Vol 13/6 Med. Micro. June 60

2023. SH. SONNEI CULTURES FERMENTING SALICIN - Serény B. State Inst. of Hyg., Budapest - ACTA MICROBIOL. ACAD. SCI. HUNG. 1959, 6/3 (217-225) Tables 5

Out of 69 Sh. sonnei strains 8 were found to ferment salicin late, after a latency period of 4-26 days. Decomposition of salicin did not occur in cultures of Sh. dysenteriae 2 and Sh. flexneri. These results indicate that it is not correct to exclude salicin-positive strains from the Shigella genus.

SHEREN', B. [Serény, B.]

Some features of the mechanism of chemotherapy in experimental Shigella keratoconjunctivitis. Zhur.mikrobiol.epid.i immun. 30 no.10:107-112
O '59. (MIRA 13:2)

1. Iz Gosudarstvennogo gigiyenicheskogo instituta g. Budapeshta.
(KERATOCONUNCTIVITIS exper.)
(SHIGELLA infect.)

SERENY, B.

The dissociation of *Shigella Sonnei* on a culture medium containing desoxycholic acid. *Acta microb. hung.* 7 no.1:51-56 '60.

1. State Institute of Hygiene, Budapest.
(*SHIGELIA* culture)
(*BILE ACIDS AND SALTS*)

SERENY, Bela, dr.

Control of dysentery in modern practice. Nepegeaszsegugy 41
no.1:5-9 Ja '60.

1. Kozlemeny az Orszagos Kozegeszsegugyi Intezetbol (foigazgato:
Bakacs Tibor dr.).
(DYSENTERY BACILLARY prev & control)

SERENY, B.

Impressions of sh. Sonnei colonies on agar culture media. Acta
microb.hung. 7 no.3:277-284 '60.

1. State Institute of Hygiene, Budapest.
(SHIGELLA culture)

SERENY, B.

Variants of Sh. Sonnei phase I. Acta microb. hung. 8 no.2:160-172
'61.

1. State Institute of Hygiene, Budapest.
(SHIGELLA immunology)

SERENY, Bela, dr.

Practical epidemiological examination for the study of epidemiological problems of dysentery. Nepegeszsegugy 43 no.5:139-142 My '62.

l. Kozlemeny as Orszagos Kozegeszsegugyi Intezetbol (foigazgato:
Bakacs Tibor dr.
(DYSENTERY BACILLARY prev & control)

SERENY, B.

A new method for the measurement of protective potency of dysentery vaccines. Acta microb. 9 no.1:55-60 '62.

1. State Institute of Hygiene, Budapest (Director: T. Bakacs).
(DYSENTERY, BACILLARY immunol.)

HUNGARY

SERENY, Bela; State Institute of Hygiene [original language version not given] (director: BAKACS, T.), Budapest.

"Biochemical Reactions and Virulence of E. Coli O124: K72 (17)."

Budapest, Acta Microbiologica Academiae Scientiarum Hungaricae, Vol X, No 1, 1963, pages 11-18.

Abstract: [English article, author's English summary] Although some of the biochemical reactions of *E. coli* O124 and *Shigellae* are similar, O124 strains belong to the late lactose-fermenting group of *E. coli* biochemically. At oblique illumination, various colonial variants can be distinguished in *E. coli* O124 cultures. The variants may differ in virulence. In guinea pigs infected through the conjunctiva with virulent *E. coli* O124 cultures, typical keratoconjunctivitis can be produced. As to natural, acquired immunity, *Shigella* and *E. coli* O124 strains can be mutually substituted and a cross-resistance can be produced. 12 Hungarian, 12 Western references.

1/1

SERENY, B.

Breakdown of amino-acids by Enterobacteriaceae: its use as
a routine diagnostic test. Acta microbiol. acad. sci. Hung.
10 no.4:403-407 '63-'64

1. State Institute of Hygiene (Director: T.Bakacs), Budapest.

SERENY, B.

Breakdown of amino acids by enterobacteriaceae. II. Stereo-specificity of alkalinization reaction. Acta microbiol. acad. sci. Hung. 11 no.2:131-137 '64.

1. State Institute of Hygiene (Director: T. Bakacs), Budapest.

SERENY, B.

Breakdown of amino acids by enterobacteriaceas. III. Characteristic colour reactions in the Proteus-Providencia group.
Acta microbiol. acad. sci. Hung. 11 no.3:237-249 '64/65

1. State Institute of Hygiene (Director: T. Bakacs), Budapest.

L 30750-66 T JH

ACC NR: AP6020279

SOURCE CODE: HU/0028/65/012/003/0283/0288

49
B

AUTHOR: Sereny, Bela (Budapest)

ORG: State Institute of Hygiene/directed by T. Bakacs/, Budapest (Allami
kozegeszsegugyi intezet)

TITLE: Breakdown of amino acids by Enterobacteriaceae IV. Glycine decomposition test

SOURCE: Academia scientiarum hungaricae. Acta microbiologica, v. 12, no. 3, 1965,
283-288

TOPIC TAGS: bacteria, biologic metabolism, bacteriology, glycine,

ABSTRACT: Simple, routine tests based on alkalization and ninhydrin reactions have
been described for the determination of the bacterial breakdown of glycine. By use
of the method, Enterobacteriaceae can be divided into two groups: 1) glycine-negative
group (Shigella, S. paratyphi A) and 2) glycine-positive (E. coli, Klebsiella,
Citrobacter, Enterobacter, Serratia, Arizona, different Salmonellae, Proteus-
Providencia) group. Among the glycine-positive genera (species), some minus variants
occurred. The observation period of one week is shortened by one day when the
microtest is used instead of the macrotest. For the Enterobacteriaceae strains the
author is indebted to Dr. E. Aldova (Institute of Epidemiology and Microbiology,
Prague); to Dr. F. Kolta, Chief, Public Health Laboratory, Tatabanya; to Dr. G. Haban,Chief, Department of Bacteriology; to Dr. H. Milch, Head, Phage Laboratory; to
Dr. B. Lanyi, Head, Culture Collection Centre; and to Drs. Z. Deak and I. Gado,
Phage Laboratory, State Institute of Hygiene, Budapest. Orig. art. has: 2 tables.
[Orig. art. in Eng.] [JPRS]

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L 00702-67 T JK

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SOURCE CODE: HU/0028/66/013/001/0025/0028

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B

SERENY, Bela, of the National Institute for Public Health [original-language version not given] in Budapest (Director: BAKACS, T.).

"Breakdown of Aminoacids by Enterobacteriaceae. Part 5: Breakdown of Glycine in Simple Medium"

Budapest, Acta Microbiologica Academiae Scientiarum Hungaricae, Vol 13,
No 1, 2 Jun 1966, pp 25-28.

Abstract: [English article; author's English summary, modified] The frequency of glycine positivity among enteric bacteria increases when a solution containing only glycine and phosphate is used instead of a complex medium. The method based on this observation appears suitable for the differentiation of enteric bacteria and for revealing biotypes within some species, since with the alkalization macrotest only S. paratyphi A, Shigella, and Proteus-Providentia; and with the ninhydrine test only certain Shigella strains may react negatively. With the alkalization microtest, S. paratyphi A, Shigella, Morganella, and Providentia gave no early positive result.

The author is indebted for enterobacteriaceae strains to Dr. V. Kertesz (Institute of Microbiology, Hygienic Faculty, Charles University, Prague); Dr. E. Aldova (Institute of Epidemiology and Microbiology, Prague); Dr. F. Kolta, Chief, Public Health Laboratory, Tatabanya; Dr. G. Haban, Chief, Department of Bacteriology; Dr. H. Milch, Head, Phage Laboratory; Dr. B. Lanyi, Head, Culture Collection Centre; and to Drs. Z. Deak and I. Gado, Phage Laboratory, National Institute of Public Health,
Card 1/2

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L 00702-67

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Budapest. Orig. art. has: 1 table. [JPRS: 36,834]

TOPIC TAGS: bacteria, amino acid, glycine

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HUNGARY

SERENY, Bela; National Institute of Public Health (director: BAKACS, T.)
(Orszagos Kozegeszsegnyi Intezet), Budapest.

"Breakdown of Amino Acids by Enterobacteriaceae.VI. β -Alanine Macro- and
Microtest."

Budapest, Acta Microbiologica Academiae Scientiarum Hungaricae, Vol XIII,
No 2, 1966, pages 167-170.

Abstract: [English article, author's English summary modified] Among members of the family Enterobacteriaceae, some of the Serratia, Enterobacter, Arizona and Klebsiella strains produced alkalization in a β -alanine medium. The reaction can be used for differentiation between biotypes within these genera. The alkalization is probably due to endogenous oxidation and not to the breakdown of β -alanine. 2 Hungarian, 5 Western references.
[Manuscript received 9 Feb 66.]

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Country	: USSR	9-1
Category	: Farm Animals.	
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Abs. Jour	: Ref Zhur-Biol., No 16, 1953, 739-6	
Author	: Seren'yev, V. M.	
Institut.	"	
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Orig Pub.	: Vestn. s.-kh. nauki, 1957, No 7, 123-126	
Abstract	: The green mass of various plants contains from 20-30 to 600-800 mg of nitrates per 10 g of mass, but in silage they are rarely found. As 1 g of potassium nitrate is reduced, 0.37 [g] of sugar are oxidized and 0.99 g of potassium bicarbonate are formed. As potassium bicarbonate suspension was fixed with lactic acid by means of electric titration, it was established that in order to overcome buffering capacity of up to 4.2 pH, the expenditures had to amount to	

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(COLLAPSE THERAPY

thoracoplasty followed by pneumonectomy (Hun))

(PNEUMONECTOMY

after thoracoplasty (Hun))

SACERDITA MEDICA Sec 15 Vol 13/2 Chest Dis. Feb 50

325. EXPERIENCE WITH PULMONARY RESECTION AFTER THORACO-
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The results of 47 resections performed after thoracoplasty are discussed. For
treatment of residual cavities found after unsuccessful thoracoplasty the method of
resection is most suitable despite the increased mortality and the higher number of
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(IODINE ISOTOPES, DIAGNOSTIC)
(LYMPHATIC SYSTEM) (BLOOD)